

Date: Tuesday, 08/07/2008 9:18:08 AM
 User: Julie Lecocq

Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services			Drawing Name	: BOLT		
Job Number	: 40351			Part Number	: D312121		
Estimate Number	: 10372			Drawing Number	: D3121 REV E		
P.O. Number	:			Project Number	: N/A		
This Issue	: 08/07/2008	S.O. No.	:	Drawing Revision	: E		
Prsht Rev.	: NC			Material	:		
First Issue	: / /	Type	: MACHINED PARTS.			Due Date	: 30/07/2008
Previous Run	: 40284			Qty:	100	Um:	Each
Written By	:						
Checked & Approved By	<u>JUL 08.7.08</u>						
Comment	: Est. A04.02.09 New issue KJ/DS Est Rev:B ECN 1060 07-11-12 DD verified by:EC						

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :		
1.0	M303H0500	303 HEX BAR		
Comment: Qty.: 0.0417 f(s)/Unit Total : 4.1700 f(s) 303 HEX BAR Material: AISI 303 SS 1/2" Hex Bar (M303H0.500) Batch: <u>107980</u> <u>MMF 08/07/10</u>				
2.0	HARDINGE	HARDINGE CNC LATHE SMALL		
Comment: HARDINGE CNC LATHE SMALL 1-Turn D3121-21 2-Identify as D3121-21 3-Deburr break all sharp edges 0.005" to 0.010" <u>MMF 08/07/10</u>				
3.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE		
Comment: INSPECT PARTS AS THEY COME OFF MACHINE <u>MMF 08/07/10</u>				
4.0	QC8	SECOND CHECK		
Comment: SECOND CHECK <u>MMF 08/07/10</u>				
5.0	PACKAGING 1	PACKAGING RESOURCE #1		
Comment: PACKAGING RESOURCE #1 Identify and Stock <u>ST 238</u> <u>MMF 08/07/10</u> Location: <u>X100</u>				

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Tuesday, 08/07/2008 9:18:08 AM
User: Julie Lecocq

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BOLT

Job Number: 40351

Part Number: D312121

Job Number:



Seq. #:	Machine Or Operation:	Description :
6.0	QC21	FINAL INSPECTION/W/O RELEASE

Comment: FINAL INSPECTION/W/O RELEASE



08/07/15 JG

Job Completion



MF 08-07-14

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD	Work Order:	40351
Description: Bolt	Part Number:	D3121-21
Inspection Dwg: D3121	Rev: E	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

X First Article Prototype

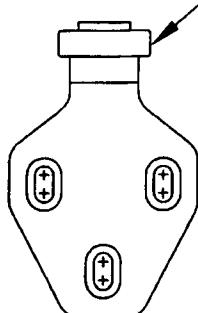
Measured by: <u>mjt</u>	Audited by: <u>smj</u>	Prototype Approval: N/A
Date: 08/07/10	Date: 08/07/10	Date: N/A

Rev	Date	Change	Revised by	Approved
A	04.02.27	New Issue	KJ/RF	
B	06.03.09	Dwg Rev. updated	KJ/JLM	
C	06.06.14	Dwg Rev. updated	KJ/JLM	
D	08.01.16	Dwg Rev. updated	KJ/EC/DD	DD

DART

DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO.	REV. E SHEET 1 OF 10
		D3121	
DATE		TITLE	SCALE
07.11.07		BRACKET ASSEMBLY	1:2
A	02.04.15	NEW ISSUE	
B	03.01.16	ADD RIDGES; ADD MAT'L PROP; FIX P/N ADD -141/-143/-144/-145/-146	
C	04.02.17	ADD CLEARANCE; USE -241 BEARING	
D	06.05.17	D3121-25 CAP WAS 1.024, NOW 1.000	
E	07.11.07	ADD TOLERANCE TO 0.032 (DETAIL B)	

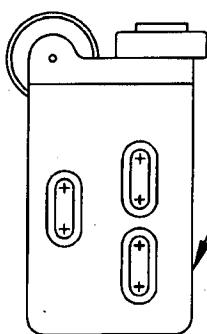
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07.11.07



D3121-21 BOLT (1)
D3121-241
BEARING ASSEMBLY (1)

D3121-041 BRACKET ASSEMBLY

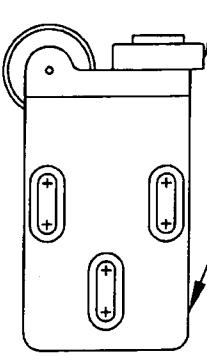
(REPLACES PREMIER P/N B30-23000-33)



D3121-21 BOLT (1)
D3121-241
BEARING ASSEMBLY (1)
(2 PLACES)

D3121-043 (SHOWN) / D3121-044 (OPPOSITE)
BRACKET ASSEMBLY

(REPLACES PREMIER P/N B30-23000-37/-38)



D3121-21 BOLT (1)
D3121-241
BEARING ASSEMBLY (1)
(2 PLACES)

D3121-045 (SHOWN) / D3121-046 (OPPOSITE)
BRACKET ASSEMBLY

(REPLACES PREMIER P/N B30-23000-35/-36)

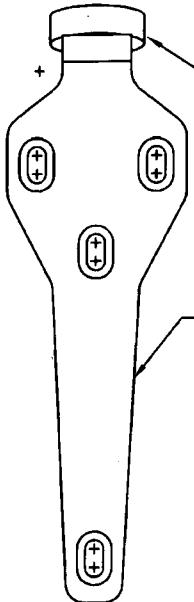
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DATE 07.11.07		TITLE BRACKET ASSEMBLY	SCALE 1:2

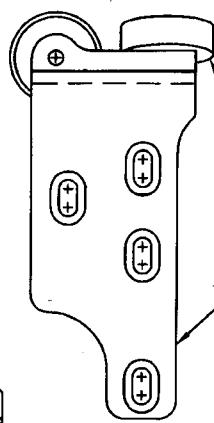


D3121-21 BOLT (1)
D3121-241
BEARING ASSEMBLY (1)

D3121-141 BRACKET ASSEMBLY
(REPLACES PREMIER P/N B30-23001-01)

D3121-111 BRACKET

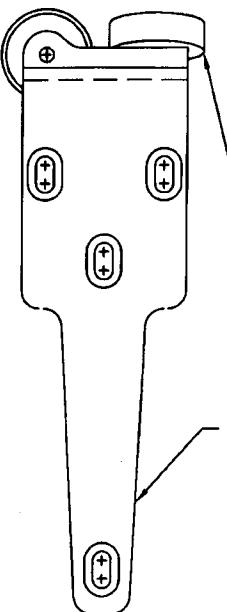
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D3121-21 BOLT (1)
D3121-241 BEARING ASSEMBLY (1)
(2 PLACES)

D3121-113/-114 BRACKET

**D3121-143 (SHOWN) / D3121-144 (OPPOSITE)
BRACKET ASSEMBLY**
(REPLACES PREMIER P/N B30-23000-03/-04)



D3121-21 BOLT (1)
D3121-241 BEARING ASSEMBLY (1)
(2 PLACES)

**D3121-145 (SHOWN) / D3121-146 (OPPOSITE)
BRACKET ASSEMBLY**
(REPLACES PREMIER P/N B30-23000-05/-06)

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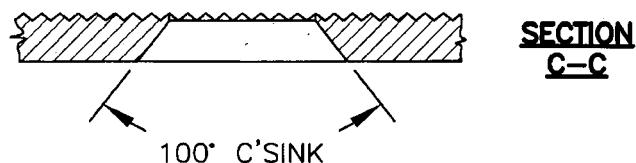
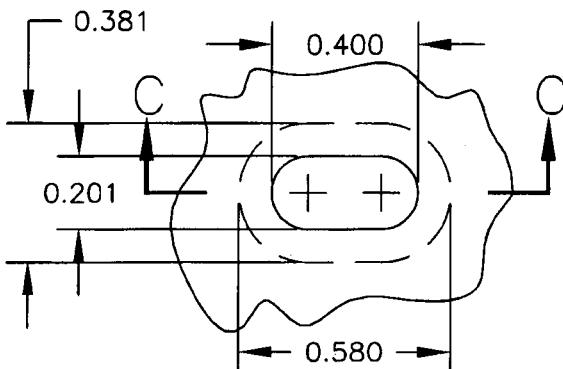
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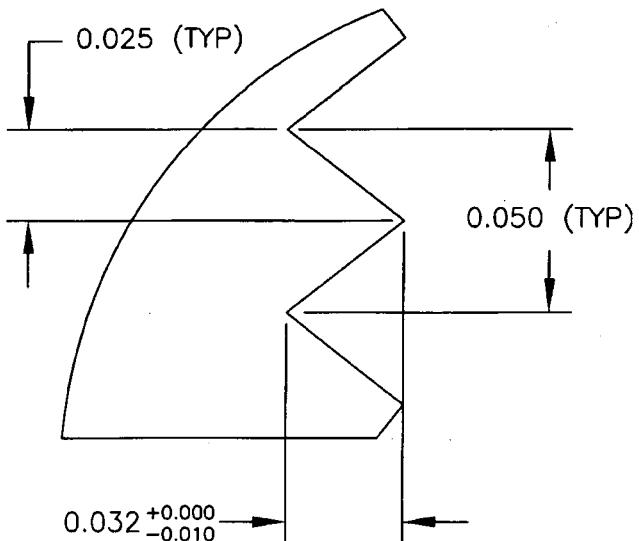
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		D3121	SHEET 3 OF 10
DATE	TITLE	SCALE	1:1
07.11.07	BRACKET ASSEMBLY		

DETAIL A:
SLOT DETAIL
SCALE 2:1
VIEW ROTATED



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07.11.07

DETAIL B:
RIDGE DETAIL
PARTIAL SECTION
SCALE 1:20



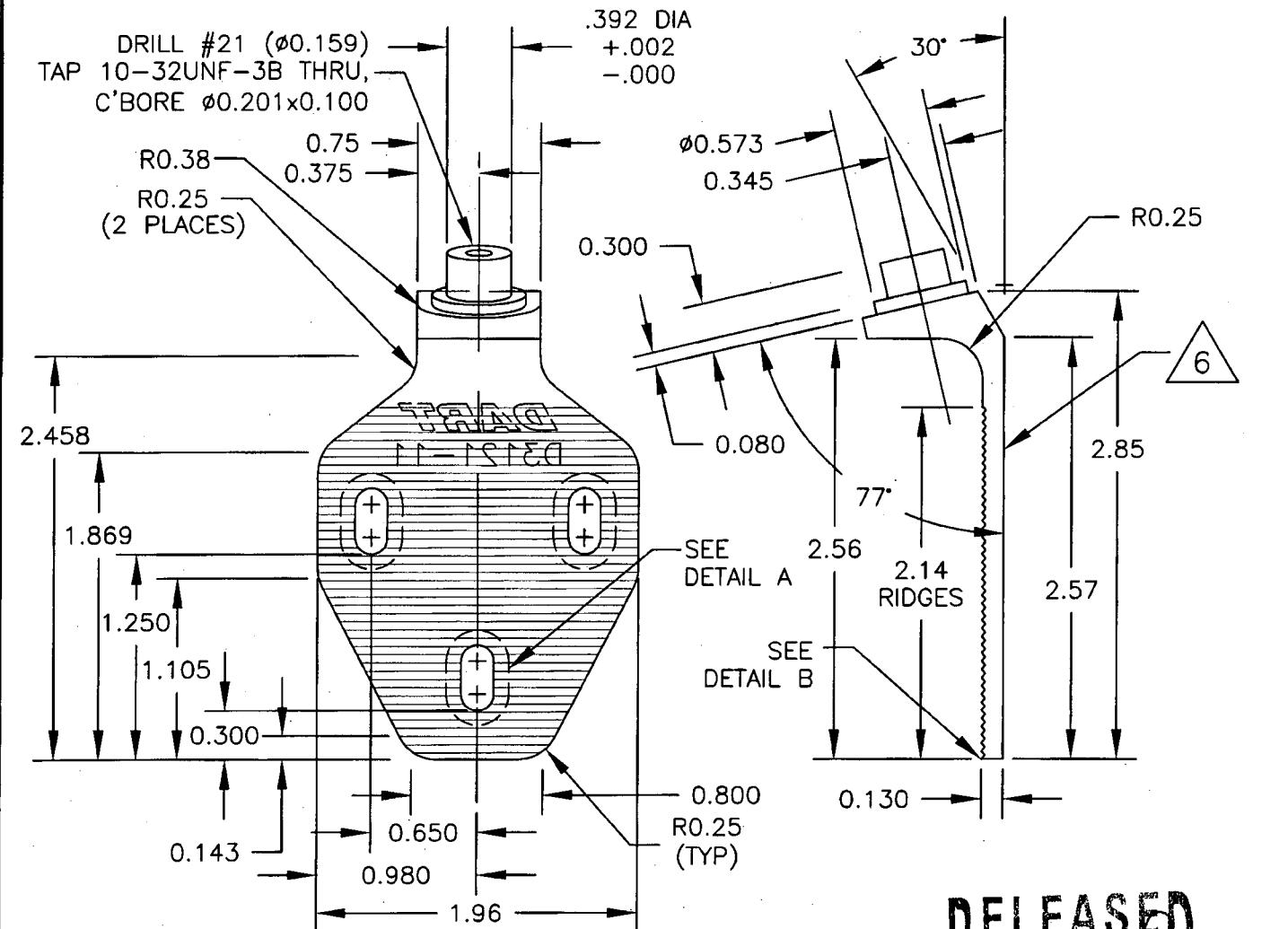
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DATE 07.11.07	TITLE BRACKET ASSEMBLY		SCALE 1:1



RELEASED
07.11.07 MP

D3121-11 BRACKET

1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)
MIN ULTIMATE TENSILE = 150 ksi
MIN YIELD TENSILE = 100 ksi

2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

3) ALL DIMENSIONS ARE IN INCHES

4) BREAK ALL SHARP EDGES 0.005 TO 0.015

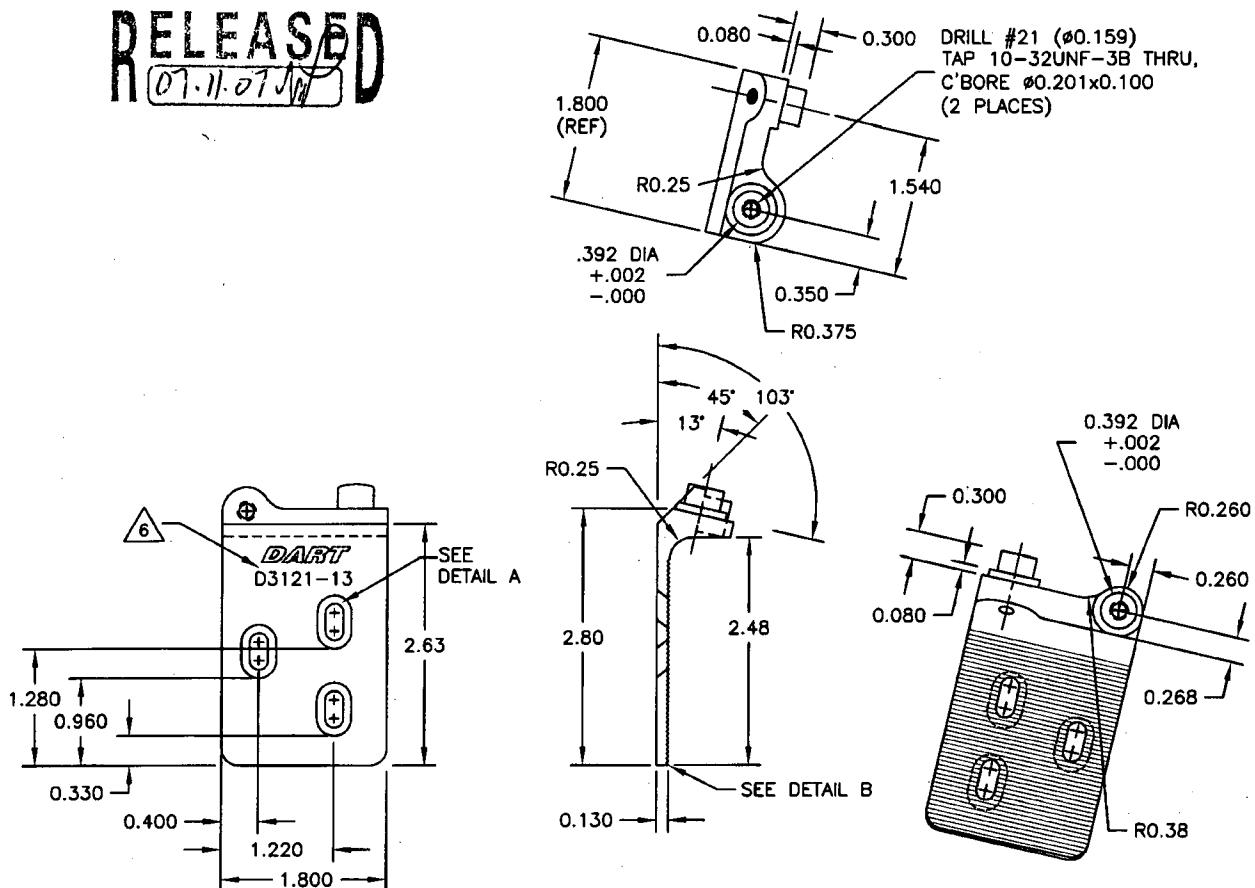
5) ENGRAVE DART P/N & LOGO AS SHOWN

6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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		D3121	SHEET 5 OF 10

DATE
07.11.07TITLE
BRACKET ASSEMBLYSCALE
1:2**RELEASED**
07.11.07

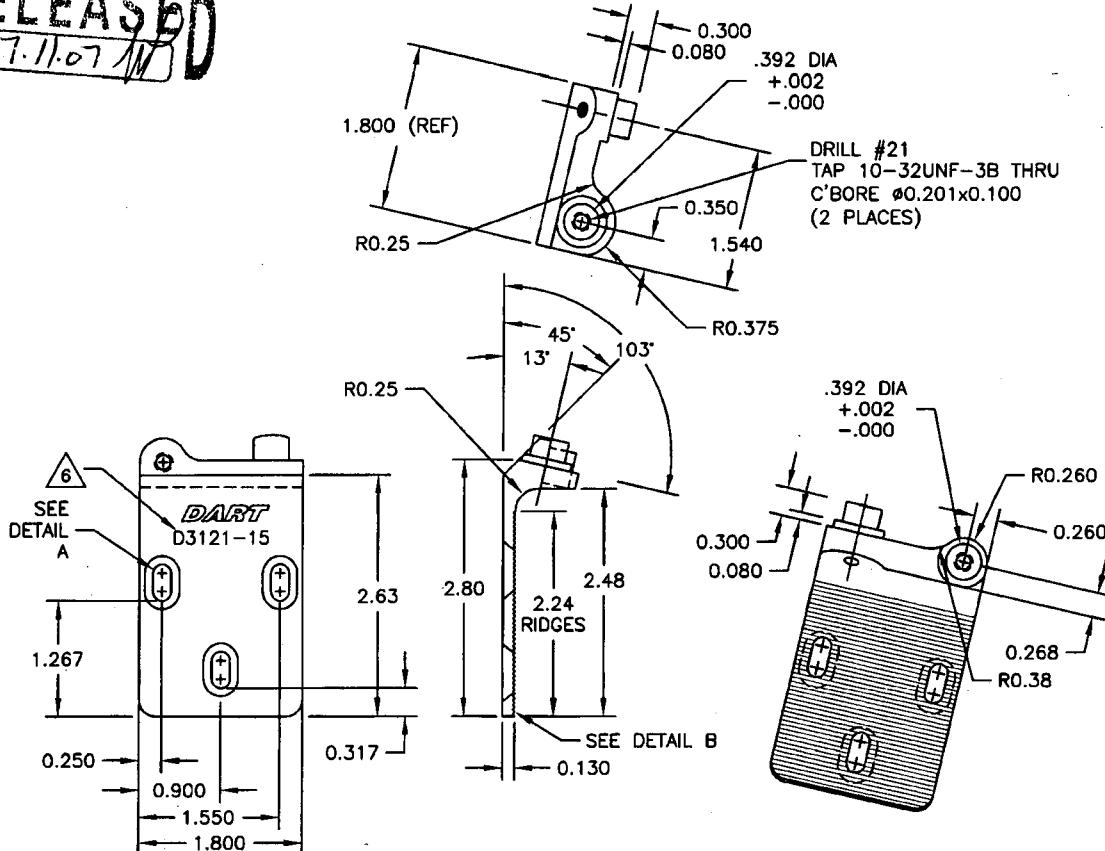
D3121-13 BRACKET (SHOWN)
D3121-14 BRACKET (OPPOSITE)

- 1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)
 MIN ULTIMATE TENSILE STRENGTH = 150 ksi
 MIN YIELD TENSILE STRENGTH = 100 ksi
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N & LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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		D3121	SHEET 6 OF 10
DATE	TITLE	SCALE	1:2
07.11.07	BRACKET ASSEMBLY		

RELEASED
07.11.07

D3121-15 BRACKET (SHOWN)
D3121-16 BRACKET (OPPOSITE)

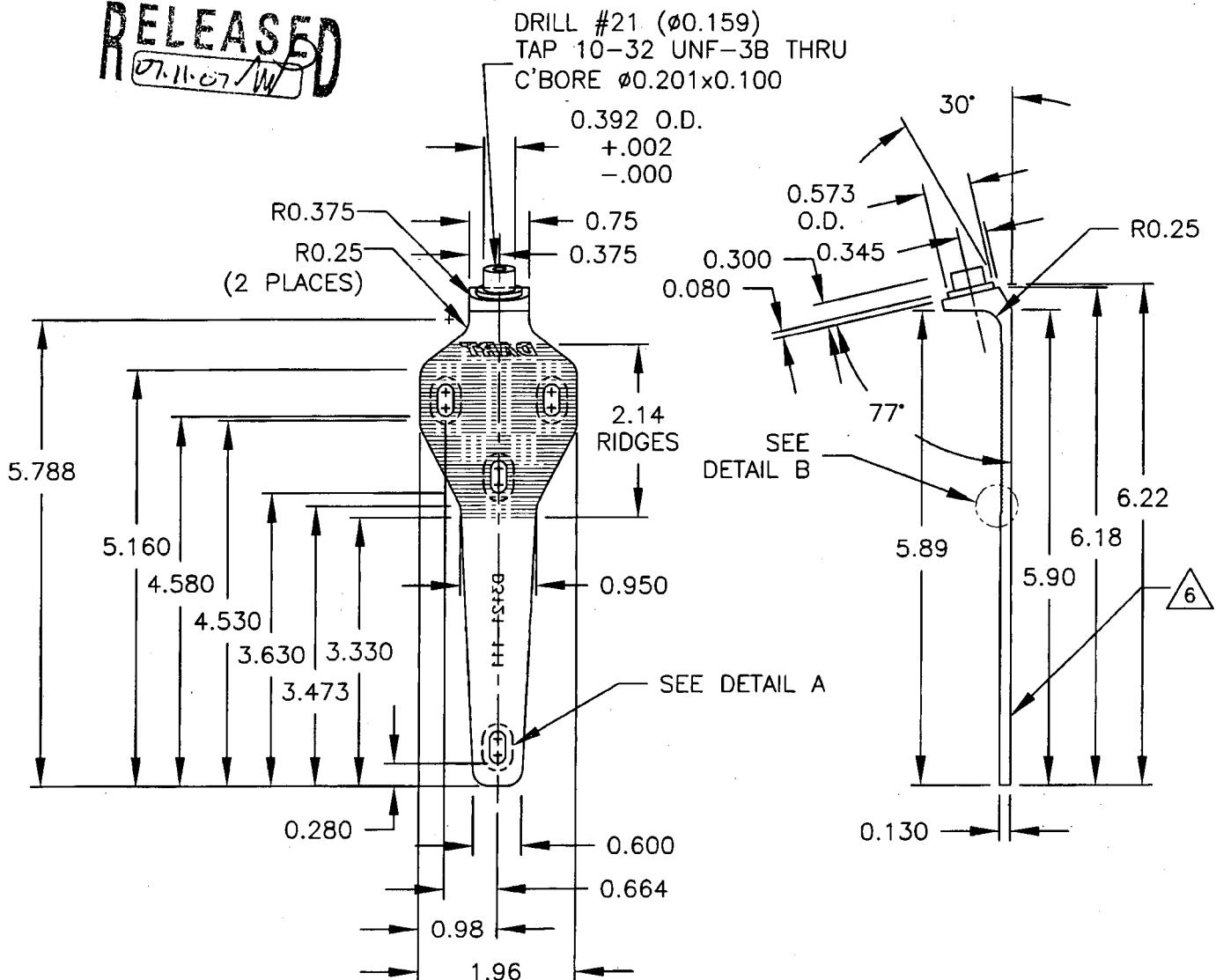
- 1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)
 MIN ULTIMATE TENSILE = 150 ksi
 MIN YIELD TENSILE = 100 ksi
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N AND LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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		D3121	REV. E
DATE	TITLE	SCALE	1:2
07.11.07	BRACKET ASSEMBLY		

RELEASED
07.11.07/W**D3121-111 BRACKET**

- 1) REPLACES PREMIER P/N B32-23001-11
- 2) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)
MIN ULTIMATE TENSILE = 150 ksi
MIN YIELD TENSILE = 100 ksi
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN
- 7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

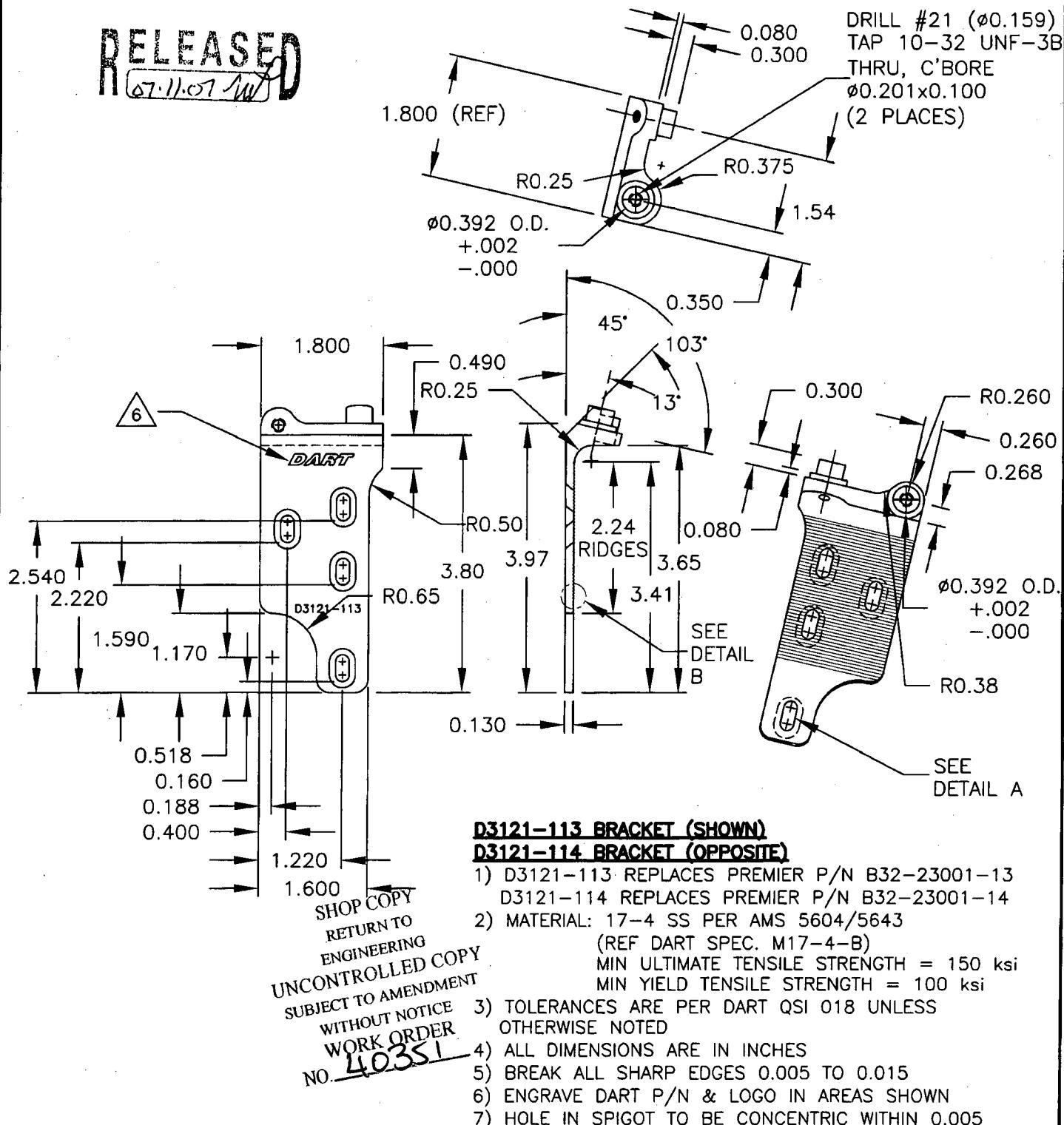
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CHECKED <u>A</u>	APPROVED <u> </u>	DRAWING NO. D3121	REV. E	SHEET 8 OF 10
DATE 07.11.07		TITLE BRACKET ASSEMBLY	SCALE 1:2	

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07.11.07

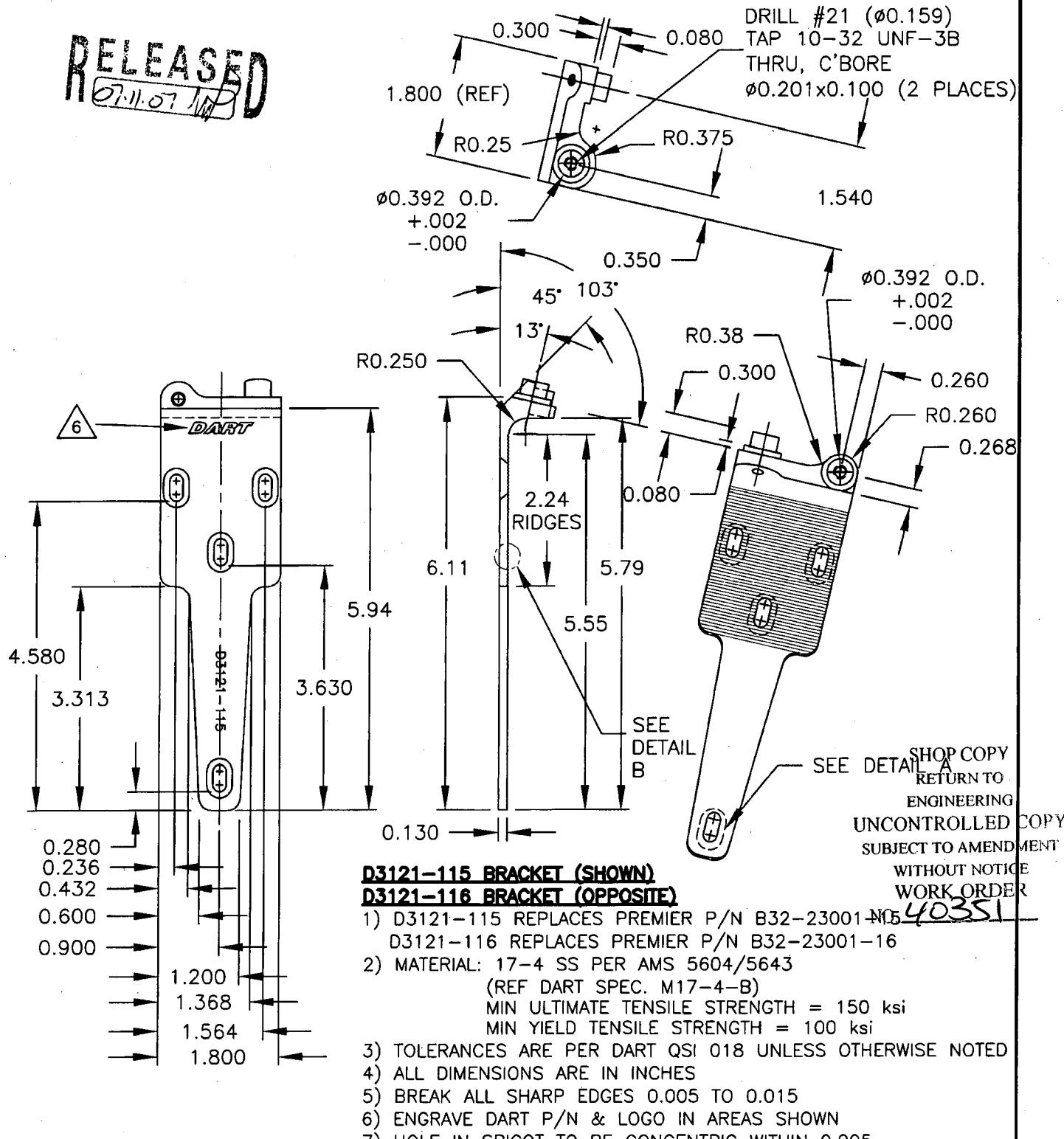


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		D3121	SHEET 9 OF 10
DATE	TITLE	SCALE	
07.11.07	BRACKET ASSEMBLY	1:2	

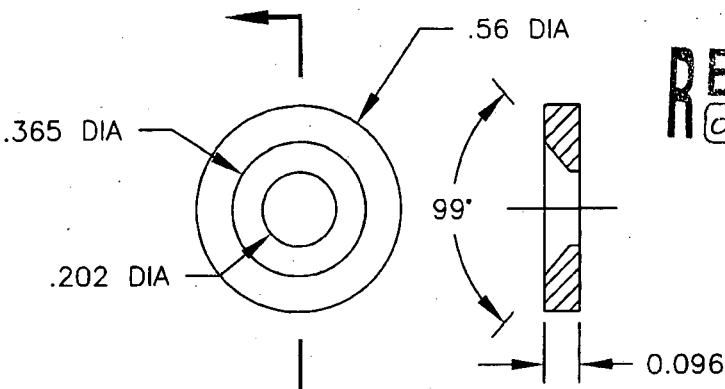
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07.11.07 10P

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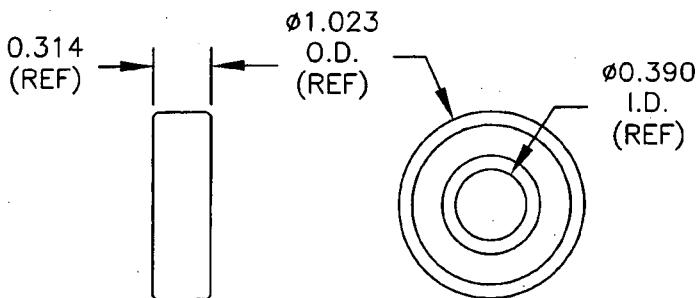
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CHECKED	APPROVED	DRAWING NO. D3121
DATE		REV. E SHEET 10 OF 10 TITLE: BRACKET ASSEMBLY SCALE: 1:1



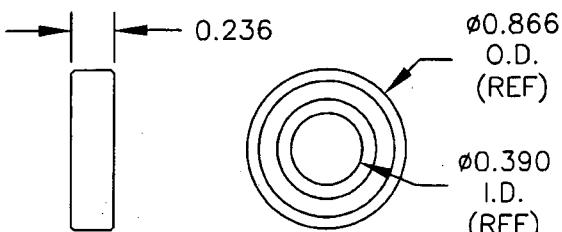
D3121-17 WASHER (SCALE 2:1)

- 1) REPLACES PREMIER P/N B32-23001-17
- 2) MATERIAL: AISI 303 SS ROUND BAR, ANNEALED (REF DART SPEC. M303R)
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015



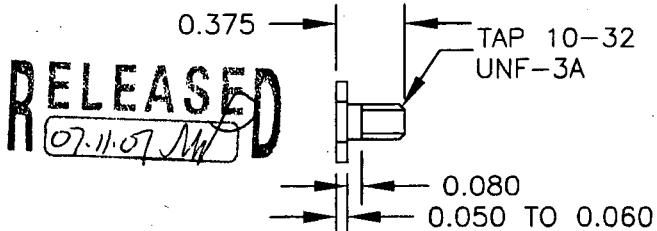
D3121-19 BEARING (SCALE 1:1)

- 1) POSSIBLE SUPPLIER: KING BEARING P/N 6000-2ZJ/EM
FAFNIR P/N 9100KDD
- 2) ALL DIMENSIONS ARE IN INCHES



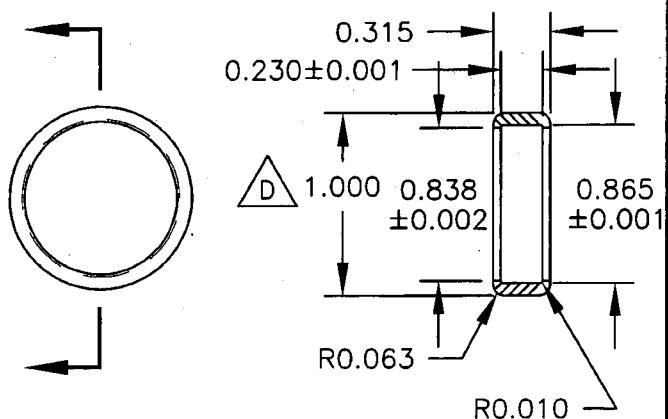
D3121-23 BEARING (SCALE 1:1)

- 1) POSSIBLE SUPPLIER: SKF P/N 61900-2Z
OR KML P/N 6900-2Z
- 2) ALL DIMENSIONS ARE IN INCHES



D3121-21 BOLT (SCALE 1:1)

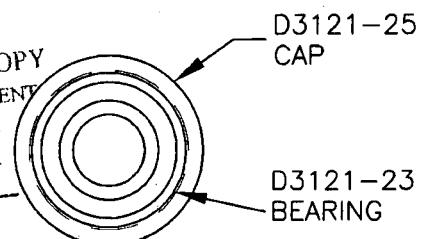
- 1) MATERIAL: AISI 303 SS HEX, ANNEALED (REF DART SPEC. M303H0.500)
- 2) FINISH: NONE
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015



D3121-25 CAP (SCALE 1:1)

- 1) MATERIAL: DELRIN ROD, Ø1.25 (REF DART SPEC. M-DELRIN-R1.250)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES

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D3121-241 BEARING ASSEMBLY (SCALE 1:1)